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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/829,326

04/22/2004

In-ho Yoon

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02/17/2006

ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P.

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WASHINGTON,, DC 20036

EXAMINER

ROBINSON, MARK A

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/829,326 | YOON, IN-HO | |
| | Examiner | Art Unit | |
| | Mark A. Robinson | 2872 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/26/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-6,9-11 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4,9 and 16 have been amended to recite "an elastic piece protruded inwardly and in an upward direction from a circumference of the coupling hole." However, this limitation appears to be inconsistent with the specification and drawings which show the portion or piece which protrudes from the hole to extend outwardly and/or downwardly from this hole. Accordingly, this phrase is indefinite in light of the teachings of the specification and drawings.

The remaining claims inherit this deficiency.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,2,4,6-9,11,15,16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-268224 (hereinafter "Ricoh").

Ricoh shows a rotatable polygon mirror assembly including polygon mirror(52) with outer reflecting surfaces and a fixing member(18) to substantially cover the upper surface of the mirror for fixing the same to the rotor assembly(6).

Ricoh further shows the fixing member to have a larger outer circumferential portion than the mirror (see fig. 1), to comprise a circular disc spring (see fig. 2) with a hole in the middle, an elastic piece (the portion between the hole and item 18b), a curved portion(18b) protruded in another direction so as to press the mirror, and a space between the outer portion of the spring(18) and the mirror(52).

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Regarding claim 7, note that as Ricoh's fixing member(18) covers the mirror, it will provide a measure of protection from dirt-containing air.

The method limitations of claims 15,16 and 18 are inherent in the structure of Ricoh discussed above.

Ricoh meets the limitations of amended claims 4,9 and 16 insofar as the claims are understandable in light of the 112 rejection above since Ricoh's fixing member(18) includes portions which protrude up and down and inwardly and outwardly.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricoh in view of Miyamoto (US 6414777).

Ricoh further shows a sleeve-supported shaft(4), rotor frame(102) and magnet(20), but does not show a rotor case or printed circuit board. However, each of these elements is

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commonly found in polygon mirror assemblies and an example is shown by Miyamoto (see fig. 1 or 5A) as discussed by applicant in the background of the specification. It would have been obvious to use these elements with Ricoh's assembly in order to provide efficient means for or control over the movement of the mirror.

Allowable Subject Matter

7. Claims 5, 10 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 12/8/05 have been fully considered but they are not persuasive.

Applicant has argued that item 18 of Ricoh does not constitute a "fixing member" as claimed. Applicant also argued that although spring 18b presses against the mirror, it is unclear whether this serves to fix the mirror relative to the rotor. Applicant has also requested a translation of the Ricoh reference.

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In response, it should be noted that the basis for the rejection based on Ricoh may be provided by the translated portion provided with the previous office action and the drawings as interpreted by one of ordinary skill in the art. Although item 18 serves as a mount for the magnets(20), it also serves to fix the polygon mirror to the rotor. Fig. 1 of Ricoh shows portion 18b of member 18 to contact the upper surface of the mirror(52). Ricoh also teaches the mirror(52) to rest on the upper rotor surface(16c). Thus, when spring 18b presses (downward) against the mirror(52), it will fix the mirror against the upper rotor surface(16c). Fastening elements 18a and 16e which fix member 18 to rotor 16 should also be noted. Attached herewith is another translated abstract of Ricoh which teaches spring 18b to "pressurize" the mirror against the rotor(16). Clearly, it can be ascertained that the mirror(52) is fixed (securely placed or immobile) against the rotor(16) via pressure from member 18. Thus, member 18 satisfies the limitation of "a fixing member" as claimed. If applicant still believes a translation of Ricoh is necessary, the examiner will forward such request to the translations division.

Applicant has also provided these arguments concerning the fixing member with respect to the obviousness rejection.

In response, the examiner's arguments are repeated.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (571) 272-2319.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MR

2/9/06


MARK A. ROBINSON
PRIMARY EXAMINER